Thesis Project Portfolio

End-to-End Web Development in a Startup Environment

(Technical Report)

The Role of Artificial Intelligence in Consumer Choices in the Fashion Industry

(STS Research Paper)

An Undergraduate Thesis

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In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Executive Summary

Technical Report

Over the summer of 2022, I served as a software engineering intern for the company QuoteWell, formerly Capacity Post, an insurance technology startup whose goal was to enable insurance agents to bind insurance more efficiently for their small-to-medium business clients. To this end, I designed and implemented an end-to-end feature internal tracking of customer submissions on the product website. I used code, no-code services, and third-party APIs to create the feature. This project lasted over a month and was a core aspect of the company's product and workflow. As an essential component to customer service, this project was used by the company until their goals and product vision changed. As the company grows, the need for and configuration of this project will be reevaluated as the customer needs evolve.

STS Project

My STS paper explores the impact of Artificial Intelligence (AI) on consumer behavior within the fast fashion industry, with a focus on strategies used by industry giants like Zara and H&M. Through the lens of the "Nudge" theory by Thaler and Sunstein (2021), my study investigates how AI algorithms shape choice architectures to predictably influence consumer choices. Utilizing the Actor Network Theory (ANT) framework, I explore the interconnectedness of human and non-human actors, including fashion companies, consumers, regulators, AI algorithms, and the environment, in shaping the fast fashion landscape.

My research reveals that AI plays a critical role in optimizing supply chains, predicting consumer desires, and designing personalized advertising campaigns, all aimed at nudging consumers towards frequent purchases of fast fashion items. Real-life examples from Zara and

H&M illustrate how AI is integrated across various business operations, creating choice architectures that make these companies the easy choice for consumers. The paper also explores the vast negative environmental impacts of fast fashion accelerated by AI-powered technology.

I conclude with a call for consumer education and regulatory measures to promote ethical AI use and environmental sustainability in the fashion industry. By raising awareness and implementing guidelines for responsible AI practices, the industry can leverage technology for positive change while minimizing its ecological footprint.

Commonality

My technical report from my software engineering internship at QuoteWell exemplifies how technology can revolutionize business operations, specifically through the design and implementation of an internal feature for tracking customer submissions. This project highlighted the importance of adapting technology to meet evolving customer needs and business goals, emphasizing the ever-evolving nature of the technology field and the necessity for businesses to adapt and evolve with the changing technological landscape to remain competitive and meet customer demands effectively. Similarly, my research in the STS project on AI's impact in the fast fashion industry emphasizes the role of technology, such as AI algorithms, in shaping consumer behavior and industry trends. My paper reveals how crucial AI integration is to business development in the fashion industry. Both papers emphasize the importance of continuous innovation and the strategic implementation of new technologies to drive business growth and success in today's dynamic markets.